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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,871	07/11/2001	Christian Eisenberger	56/346	8751
7590 06/15/2005				
Brinks Hofer Gilson & Lione PO Box 10395 Chicago, IL 60610			EXAMINER PHAN, HANH	
			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/744,871	Applicant(s) EISENBERGER ET AL.	
	Examiner Hanh Phan	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-21, 24, 26-35 and 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-21, 24, 26-35 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 01/31/2005.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if

the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15, 16, 18-21, 24-27 and 29-35 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhara et al (US Patent Number 5,787,215).

Regarding claims 18 and 29, referring to Figures 10, 23 and 24A, Kuhara teaches an optoelectronic transceiver (see Figs. 23 and 24A), comprising:

an substrate element (i.e., submount 162, submount 168, submount 169, Figs. 23 and 24A);

an optoelectronic transmitting unit (i.e., LD 70, Figs. 23 and 24A) disposed on a portion of the substrate (Fig. 24A), the optoelectronic transmitting unit comprising: a radiation-emitting layer region (i.e., radiation-emitting layer region 72, Fig. 10),

an optoelectronic receiving unit (i.e., PD 64, Figs. 23 and 24A) disposed above the optoelectronic transmitting unit along a common optical axis, the optoelectronic receiving unit comprising: an active radiation-sensitive layer region (i.e., an active radiation-sensitive layer region 66, Fig. 10) disposed perpendicular to the optical axis and located in a thin membrane, which is disposed immediately in front of the radiation-

emitting layer region of the optoelectronic transmitting unit (see col. 21, lines 25-67 and col. 22, lines 1-61).

Kuhara differs from claims 18 and 29 in that he fails to specifically teach a first electrical conductor track and a second electrical conductor track, the optoelectronic receiving unit is disposed in bridge-like fashion above the optoelectronic transmitting unit and a spacer. However, it would have been obvious to obtain a first electrical conductor track and a second electrical conductor track, the optoelectronic receiving unit is disposed in bridge-like fashion above the optoelectronic transmitting unit and a spacer in order to provide the data signals for the optical transmitter and receiving the data signals received from the optical receiver separately and to reduce the interference between the signals and to increase the signal noise ratio.

Regarding claims 15 and 26, Kuhara further teaches an optical radiation shaping element (i.e., lens 78, Fig. 12) disposed between the thin membrane and the radiation-emitting region of the optoelectronic transmitting unit.

Regarding claims 16 and 27, Kuhara further teaches wherein the optical radiation shaping element (i.e., lens 78, Fig. 12) comprises a lens with a focusing action.

Regarding claims 19 and 31, Kuhara further teaches the active radiation-emitting layer region (72)(Fig. 10) of the optoelectronic transmitting unit (70) is disposed perpendicular to the optical axis (63).

Regarding claims 20 and 33, Kuhara further teaches the substrate element has a recess, and the radiation-emitting region of the optoelectronic transmitting unit and at least a portion of the active layer region of the optoelectronic receiving unit are disposed

in the region of the recess, and the optoelectronic transmitting unit and the optoelectronic receiving unit are disposed on two different sides of the substrate element (see Figs. 19, 21A, 23 and 24A).

Regarding claims 21 and 32, Kuhara further teaches contacting of the receiving unit, disposed above the optoelectronic transmitting unit, is effected by contacting elements which are disposed on side faces of the optoelectronic transmitting unit (see Figs. 19, 21A, 23 and 24A).

Regarding claims 24 and 35, Kuhara further teaches the optoelectronic receiving unit as well as the optoelectronic transmitting unit are embodied as approximately of equal size in terms of surface area (see Figs. 19, 21A, 23 and 24A).

Regarding claim 34, Kuhara further teaches the optoelectronic receiving unit is disposed above the optoelectronic transmitting unit and for contacting the optoelectronic receiving unit, bond wires are disposed on the substrate element between a first contacting element and a second contacting element (see Figs. 19, 21A, 23 and 24A).

Regarding claim 30, Kuhara further teaches the radiation sensitive area (66) of the optoelectronic receiving unit (64) is large when compared to the radiation-emitting portion of the end face of the optical waveguide (see Fig. 10).

Regarding claim 38, Kuhara further teaches the end face of the optical waveguide is disposed in a recess of the optoelectronic receiving unit in which the thin membrane having the active layer region is also located, and the optoelectronic transmitting unit is disposed on a side of the optoelectronic receiving unit opposite from the optical waveguide (see Figs. 10-12, 19, 21A, 23 and 24A).

5. Claims 17 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhara et al (US Patent No. 5,787,215) in view of Buchholz (US Patent No. 5,262,884).

Regarding claims 17 and 28, Kuhara differs from claims 17 and 28 in that he fails to teach the optical radiation shaping element comprises an optical gel. However, Buchholz teaches the optical radiation shaping element comprises an optical gel (Fig. 2, col. 6, lines 20-37). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the optical radiation shaping element comprises an optical gel as taught by Buchholz in the system of Kuhara. One of ordinary skill in the art would have been motivated to do this since Buchholz suggests in column 6, lines 20-37 that using such the optical radiation shaping element comprises an optical gel has advantage of allowing focusing the radiation emitted by the optoelectronic transmitting unit and the reflections from the various boundary faces and air gaps which cause a loss of efficiency can be avoided.

Response to Arguments

6. Applicant's arguments with respect to claims 15-21, 24, 26-35 and 38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.



HANH PHAN
PRIMARY EXAMINER